

**REMARKS**

Claims 2-5, 7-28, 30, 33-36, 42-43, 45, 47, and 54 are pending. Claims 1, 6, 29, 31-32, 37-41, 44, 46, 48-53 have been canceled without prejudice and without acquiescence. Claims 7 and 33 were made into independent claims. Claims 2-5, 8-11, 13-14, 19, 20, 27-28, 30, 36, 42, 47 have been amended to correct claim dependency. Support for claim 54 can be found in page 12, line 24-35. Applicants assert that no new matter has been added. Applicants reserve the right to pursue amended and or canceled material in other prosecution.

The issues outstanding in this application are as follows:

- Claim 48 is objected to as containing a typographical error.
- Claims 1-53 have been rejected under 35 U.S.C. §112, first paragraph as failing to comply with the written description requirement.
- Claims 1-6, 8, 10, 11, 18-23, 28, 31-36, and 38-41 have been rejected under 35 U.S.C. §102(e) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as anticipated in view of Amigo.
- Claim 7 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Amigo in view of the provided English translation of Zimmer *et al.*
- Claim 9 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Amigo in view of Regnier *et al.*
- Claims 12, 13, and 29 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Amigo in view of Karger *et al.*
- Claims 14 and 24-26 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Amigo in view of Bergstrom *et al.*
- Claims 15-17 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Amigo in view of Malmsten *et al.*

- Claims 1 and 27 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Karger *et al.* in view of Van Alstine *et al.*
- Claim 1 and 30 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Regnier *et al.* in view of Amigo.
- Claims 42, 43, 47-49, 52 and 53 were rejected under 35 U.S.C. §102(e) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over U.S. patent 5,935,401 to Amigo (herein referred to as Amigo).
- Claims 44-46 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Amigo in view of Deacher *et al.*
- Claim 50 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Amigo in view of Karger *et al.*
- Claim 51 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Amigo in view of Zimmer *et al.*

Applicant respectfully traverse the outstanding objections and rejections, and applicant respectfully request reconsideration and withdrawal thereof in light of the amendments and remarks contained herein.

## II. Claim Objection

This rejection is now moot in view of the cancellation of claim 48.

## III. 35 USC 112, first paragraph

Claims 1-53 are rejected under 35 U.S.C. § 112, first paragraph as failing to comply with the written description requirement. The applicants respectfully traverse.

In order to advance the prosecution of the present application, Applicants have amended the claims to remove the limitation of “non-electrophoresis.” In view of this

amendment, Applicants assert that this rejection is now moot, and respectfully request that it be withdrawn.

IV. Issues under 35 U.S.C. § 102

A. Claims 1-6, 8, 11, 18-23, 31-36 and 38-41

Claims 1-6, 8, 10, 11, 18-23, 28, 31-36, and 38-41 are rejected under 35 U.S.C. §102(e) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over U.S. patent 5,935,401 to Amigo (herein referred to as Amigo). The applicants respectfully traverse.

In order to advance the prosecution of the present invention, Applicants have canceled independent claim 1 without prejudice and without acquiescence. Dependent claim 7, which is not rejected under 35 U.S.C. § 102, has been made into an independent and the dependent claims now depend from claim 7. Thus, Applicants assert that this rejection is now moot.

Yet further, applicants have also canceled independent claim 31 without acquiescence and without prejudice. Dependent claim 33 has been made into an independent claim. Applicants assert that Amigo et al. do not teach all the limitations of claim 33, for example, nowhere in Amigo et al., that Applicants can identify is there a mention of device that is in a dry state capable of being rehydrated. The Examiner has also made this indication in the pending Action. Still further, nowhere that Applicants can identify in Amigo et al. is there a mention of functional parts, for example, a reaction cavity, volume defining unit, mixing cavity, or waste cavity. If the Examiner continues to maintain that Amigo et al. is the basis for this rejection, the Examiner is requested to make of record the passage relied upon, or state for the record that no such teaching can be found in Amigo et al. See, *In re Gartside*, 203 F.3d 1305, 53 USPQ2d 1769 (Fed. Cir. 2000). Since Amigo et al. do not mention all the limitations of claim 33, Applicants assert that this rejection is now moot.

In view of the above arguments, Applicants respectfully request that the rejection be withdrawn.

B. Claims 42, 43, 47-49, 52 and 53

Claims 42, 43, 47-49, 52 and 53 are rejected under 35 U.S.C. §102(e) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over U.S. patent 5,935,401 to Amigo (herein referred to as Amigo). The applicants respectfully traverse.

In order to advance the prosecution of this application, Applicants have canceled claims 48, 49, 52 and 53 without prejudice and without acquiescence. Thus, this rejection is now moot, and Applicants respectfully request that the rejection be withdrawn.

As previously indicated, independent claim 1 was canceled without prejudice and without acquiescence. Claims 42, 43, and 47 now depend from claim 7, which was not rejected. Thus, these depend claims incorporate all the limitations of independent claim 7, the Amigo patent is precluded from anticipating the present depending claims since it does not disclose all the limitations of independent claim 7. Thus, Applicants assert that this rejection is now moot, and respectfully request removal of this rejection.

V. Issues under 35 U.S.C. § 103

A. Claim 7

Dependent claim 7 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Amigo in view of the provided English translation of DE 197 53 847 (herein referred to as Zimmer *et al.*). The applicants respectfully traverse.

First and foremost, the present references relied upon by the Examiner clearly fail to establish a *prima facie* case of obviousness.

As established by *In re Royka*, *prima facie* obviousness of a claimed invention can only be established if all the claim limitations are taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). The Examiner has failed to show that all the claimed limitations are taught or suggested by the cited references. In particular, none of the references mention a device that is in a dry state capable of being rehydrated, and a device having functional parts, for example, a reaction cavity, volume defining unit, mixing cavity, or waste cavity. If the Examiner continues to maintain that Amigo *et al.* and Zimmer *et al.*

are the basis for this rejection, the Examiner is requested to make of record the passage relied upon, or state for the record that no such teaching can be found in either Amigo et al. or Zimmer et al. See, *In re Gartside*, 203 F.3d 1305, 53 USPQ2d 1769 (Fed. Cir. 2000).

Turning to the references, the Examiner appears to rely upon Zimmer et al. to provide the suggestion that one of skill in the art would combine the device of Amigo et al. with the disclosure mentioned in Zimmer et al. that mentions capillaries with sufficiently hydrophilic surfaces to draw in aqueous materials upon contact. Applicants point out that Zimmer et al. in all passages where it is specific about the surface chemistry, uses oxidized aluminum (page 9, line1, and examples) or photoreactive hydrophilic polymers (page 8, lines 8-9 from below) to hydrophilize its capillaries. A surface coated with oxidized aluminum is highly prone to non-specific adsorption, while a surface coated with a photoreactive hydrophilic polymer depending upon the particular structure may have a high or low non-specific adsorption. Nowhere in Zimmer is non-specific adsorption discussed. Thus, Applicants assert that Zimmer et al. did not regard non-specific adsorption as a problem in their system. The device of Amigo et al. in the passage referred to in the Office Action is hydrophilized to have surfaces that have low or no non-specific adsorption. See Column 5, lines 29-40. This is the opposite of the surfaces mentioned in Zimmer et al. All other variants of Amigo relate to having electroosmotic flow inside the microchannel implying inner surfaces that are electrically charged and thus prone to non-specific adsorption. Thus, Applicants assert that Amigo can not be combined with Zimmer et al. since Zimmer, if teaching anything about undesired adsorption and self-suction, teaches away from the use of inner surfaces that have low or no non-specific adsorption in order to create self-suction. *In re Grasselli*, 713 F.2d 731, 743, 218 USPQ 769, 779 (Fed. Cir. 1983).

In conclusion, since Amigo teaches away from the combination with Zimmer et al., Applicants assert that not all the claim limitations are taught or suggested by Amigo et al., thus a *prima facie* case of obviousness has not be established. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). Thus, Applicants respectfully request that the rejection be withdrawn.

## B. Claim 9

Claim 9 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Amigo in view of U.S. patent 5,958,202 to Regnier *et al.* (herein referred to as Regnier *et al.*) The applicants respectfully traverse.

The Examiner has failed to establish a *prima facie* case of obviousness. .

As established by *In re Royka*, *prima facie* obviousness of a claimed invention can only be established if all the claim limitations are taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). The Examiner has failed to show that all the claimed limitations are taught or suggested by the cited references. In particular, none of the references mention a device that is in a dry state capable of being rehydrated, and a device having functional parts, for example, a reaction cavity, volume defining unit, mixing cavity, or waste cavity. If the Examiner continues to maintain that Amigo *et al.* and Regnier *et al.* are the basis for this rejection, the Examiner is requested to make of record the passage relied upon, or state for the record that no such teaching can be found in either Amigo *et al.* or Regnier *et al.* See, *In re Gartside*, 203 F.3d 1305, 53 USPQ2d 1769 (Fed. Cir. 2000).

Turning to the references, the Examiner appears to rely upon the passage in Column 37, lines 53-59, to provide some suggestion of the use of non-electrokinetic means. This passage in Regnier *et al.* discloses methods of “introducing” a sample or reactant volumes into the system, it does not mention or suggest “transport” of solutes within a microchannel. Applicants respectfully remind the Examiner that section 103 requires consideration of the claimed invention “as a whole.” This “as a whole” requirement prevents evaluation of the invention part by part, in hindsight. *Envtl. Designs, Ltd. v. Union Oil Co.*, 713 F.2d 693, 698 (Fed. Cir. 1983). It appears that the Examiner has combined the Amigo *et al.* with Reigner *et al.* merely because Reigner mentions the word “electrokinetic” together with a number of injection methods that are not electrokinetic. The mere mention of a word that is part of a word in the claim, does not provide a suggest to combine with Amigo nor does it provide any expectation of success if combined. Thus, if the Examiner maintains this rejection, Examiner must show some suggestion or motivation, excluding the invention itself, to make the new combination. See *In re Rouffet*, 149 F.3d 1350, 1355-56 (Fed. Cir. 1998); *In re Lee* 277 F. 2d

1338, 61 USPQ 2d 1430 (Fed. Cir. 2002); and c.f. *Ruiz v. A.B. Chance Co.*, F.3d 1270 (Fed. Cir. 2004).

In conclusion, Applicants assert that the Examiner has not established a *prima facie* case of obviousness and respectfully request that the rejection be withdrawn..

C. Claims 12, 13 and 29

Claims 12, 13, and 29 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Amigo in view of U.S. Patent 5,840,388 to Karger *et al.* (herein referred to as Karger *et al.*) The applicants respectfully traverse.

The Examiner has failed to establish a *prima facie* case of obviousness. .

As established by *In re Royka*, *prima facie* obviousness of a claimed invention can only be established if all the claim limitations are taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). The Examiner has failed to show that all the claimed limitations are taught or suggested by the cited references. In particular, none of the references mention a device having functional parts, for example, a reaction cavity, volume defining unit, mixing cavity, or waste cavity. The references also do not mention a device having a hydrophilized surface on at least one of its functional parts for liquid to enter the part by self-suction. If the Examiner continues to maintain that Amigo *et al.* and Karger *et al.* are the basis for this rejection, the Examiner is requested to make of record the passage relied upon, or state for the record that no such teaching can be found in either Amigo *et al.* or Regnier *et al.* See, *In re Gartside*, 203 F.3d 1305, 53 USPQ2d 1769 (Fed. Cir. 2000).

Since both these references alone, or in combination, fail to teach or suggest all the limitations of independent claim 7, as well as dependent claims 12 and 13, the Examiner no longer demonstrates the necessary obviousness rejection criteria. (See *In re Hirao*, 535 F.2d 67; *Bausch & Lomb v. Barnes-Hind/Hydrocurve, Inc.*, 796 F.2d 443, 447-49). Thus, Applicants respectfully request that the 35 U.S.C. 103(a) rejection be withdrawn.

D. Claims 14 and 24-26

Claims 14 and 24-26 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Amigo in view of U.S. patent 5,250,613 to Bergstrom *et al.* (herein referred to as Bergstrom). The applicants respectfully traverse.

Regarding dependent claims 14, and 24-26, if an independent claim is non-obvious under 35 U.S.C. 103(a), then any claim depending therefrom is by definition non-obvious. *In re Fine*, 5 USPQ 2d 2596 (Fed. Cir. 1988). Dependent claims 14, and 24-26 depend from independent claim 7 and, thus contains all the limitations of the independent claim and are non-obvious.

Applicants assert that none of the references mention a device that is in a dry state capable of being rehydrated, and a device having functional parts, for example, a reaction cavity, volume defining unit, mixing cavity, or waste cavity. Since both these references alone, or in combination, fail to teach or suggest all the limitations of dependent claims 14, and 24-26, the Examiner no longer demonstrates the necessary obviousness rejection criteria. (See *In re Hirao*, 535 F.2d 67; *Bausch & Lomb v. Barnes-Hind/Hydrocurve, Inc.*, 796 F.2d 443, 447-49).

Thus, a *prima facie* case of obviousness has not been established, and Applicants respectfully request that the 35 U.S.C. 103(a) rejection be withdrawn.

E. Claims 15-17

Claims 15-17 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Amigo in view of Malmsten *et al.* The applicants respectfully traverse.

Regarding dependent claims 15-17, if an independent claim is non-obvious under 35 U.S.C. 103(a), then any claim depending therefrom is by definition non-obvious. *In re Fine*, 5 USPQ 2d 2596 (Fed. Cir. 1988). Dependent claims 15-17 depend from amended independent claim 7 and, thus contains all the limitations of the independent claim and are non-obvious.



Applicants assert that none of the references mention a device that is in a dry state capable of being rehydrated, and a device having functional parts, for example, a reaction cavity, volume defining unit, mixing cavity, or waste cavity. Since both these references alone, or in combination, fail to teach or suggest all the limitations of dependent claims 15-17, the Examiner no longer demonstrates the necessary obviousness rejection criteria. (See *In re Hirao*, 535 F.2d 67; *Bausch & Lomb v. Barnes-Hind/Hydrocurve, Inc.*, 796 F.2d 443, 447-49).

Thus, a *prima facie* case of obviousness has not been established, and Applicants respectfully request that the 35 U.S.C. 103(a) rejection be withdrawn.

F. Claims 1 and 27

Claims 1 and 27 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Karger *et al.* in view of U.S. patent 4,690,749 to Van Alstine *et al.* (herein referred to as Van Alstine *et al.*). The applicants respectfully traverse.

As previously mentioned, independent claim 1 has been canceled without prejudice and without acquiescence. Dependent claim 27 now depends from claim 7. Applicants assert that none of the references mention a device that is in a dry state capable of being rehydrated, and a device having functional parts, for example, a reaction cavity, volume defining unit, mixing cavity, or waste cavity. If the Examiner continues to maintain that Karger *et al.* and Van Alstine *et al.* are the basis for this rejection, the Examiner is requested to make of record the passage relied upon, or state for the record that no such teaching can be found in either Karger *et al.* or Van Alstine *et al.* See, *In re Gartside*, 203 F.3d 1305, 53 USPQ2d 1769 (Fed. Cir. 2000).

Since both these references alone, or in combination, fail to teach or suggest all the limitations of dependent claim 27, the Examiner no longer demonstrates the necessary obviousness rejection criteria. (See *In re Hirao*, 535 F.2d 67; *Bausch & Lomb v. Barnes-Hind/Hydrocurve, Inc.*, 796 F.2d 443, 447-49). Therefore, the applicants respectfully request removal of this rejection.

## G. Claim 1 and 30

Claims 1 and 30 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Regnier *et al.* in view of Amigo. The applicants respectfully traverse.

As previously mentioned, independent claim 1 has been canceled without prejudice and without acquiescence. Dependent claim 30 now depends from claim 7. Applicants assert that none of the references mention a device that is in a dry state capable of being rehydrated, and a device having functional parts, for example, a reaction cavity, volume defining unit, mixing cavity, or waste cavity. If the Examiner continues to maintain that Regnier *et al.* and Amigo *et al.* are the basis for this rejection, the Examiner is requested to make of record the passage relied upon, or state for the record that no such teaching can be found in either Regnier *et al.* or Amigo *et al.* See, *In re Gartside*, 203 F.3d 1305, 53 USPQ2d 1769 (Fed. Cir. 2000).

Since both these references alone, or in combination, fail to teach or suggest all the limitations of dependent claim 30, the Examiner no longer demonstrates the necessary obviousness rejection criteria. (See *In re Hirao*, 535 F.2d 67; *Bausch & Lomb v. Barnes-Hind/Hydrocurve, Inc.*, 796 F.2d 443, 447-49). Therefore, the applicants respectfully request removal of this rejection.

## H. Claims 44-46

Claims 44-46 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Amigo in view of Deacher *et al.*

In order to advance the prosecution of this application, Applicants have canceled claims 44 and 46 without prejudice and without acquiescence. Thus, this rejection is now moot, and Applicants respectfully request that the 35 U.S.C. 103(a) rejection be withdrawn.

Dependent claim 45 now depends from independent claim 7. Applicants assert that neither Amigo *et al.*, nor Deacher *et al.* mention all the limitations of claim 7 or dependent claim 45. Since both these references alone, or in combination, fail to teach or suggest all the limitations of dependent claim 45, the Examiner no longer demonstrates the necessary

obviousness rejection criteria. (See *In re Hirao*, 535 F.2d 67; *Bausch & Lomb v. Barnes-Hind/Hydrocurve, Inc.*, 796 F.2d 443, 447-49).

Thus, regarding dependent claim 45, if an independent claim is non-obvious under 35 U.S.C. 103(a), then any claim depending therefrom is by definition non-obvious. *In re Fine*, 5 USPQ 2d 2596 (Fed. Cir. 1988). Dependent claim 45 depends from amended independent claim 7 and, thus contains all the limitations of the independent claim and are non-obvious. Thus, a *prima facie* case of obviousness has not been established, and Applicants respectfully request that the 35 U.S.C. 103(a) rejection be withdrawn.

I. Claim 50

Claim 50 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Amigo in view of Karger et al.

In order to advance the prosecution of this application, Applicants have canceled claim 50 without prejudice and without acquiescence. Thus, this rejection is now moot, and Applicants respectfully request that the 35 U.S.C. 103(a) rejection be withdrawn.

J. Claim 51

Claim 51 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Amigo in view of Zimmer et al.

In order to advance the prosecution of this application, Applicants have canceled claim 51 without prejudice and without acquiescence. Thus, this rejection is now moot, and Applicants respectfully request that the 35 U.S.C. 103(a) rejection be withdrawn.

**CONCLUSION**

In view of the above amendment, applicant believes the pending application is in condition for allowance.


Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 06-2375, under Order No. HO-P02378US0 from which the undersigned is authorized to draw.

Application No.: 10/069,827

Docket No.: HO-P02378US0

Dated: May 24, 2005

Respectfully submitted,

By 

Melissa W. Acosta, Ph.D.

Registration No.: 45,872

FULBRIGHT & JAWORSKI L.L.P.

Fulbright Tower

1301 McKinney, Suite 5100

Houston, Texas 77010-3095

(713) 651-5151

(713) 651-5246 (Fax)